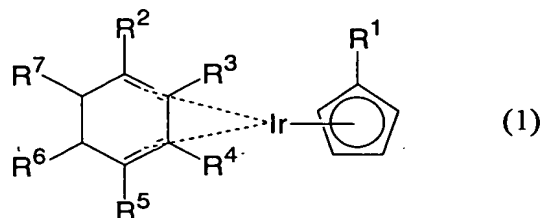


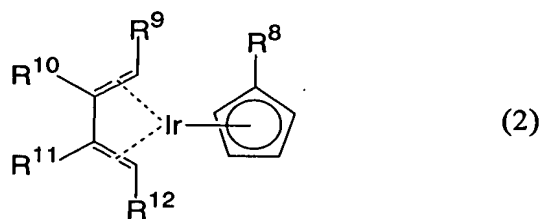
WHAT IS CLAIMED IS:

1. An organometallic iridium compound represented by the following general formula (1):



wherein R¹ represents hydrogen or a lower alkyl group; and R², R³, R⁴, R⁵, R⁶, and R⁷ are the same or different and each represents hydrogen, a halogen, a lower acyl group, a lower alkoxy group, a lower alkoxycarbonyl group, or a lower alkyl group, provided that the case where all of R¹, R², R³, R⁴, R⁵, R⁶, and R⁷ represent hydrogen is excluded.

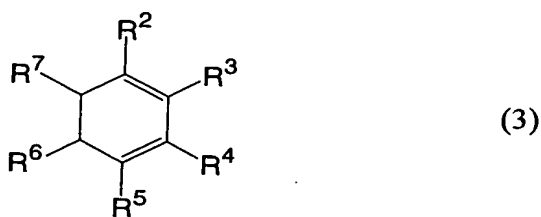
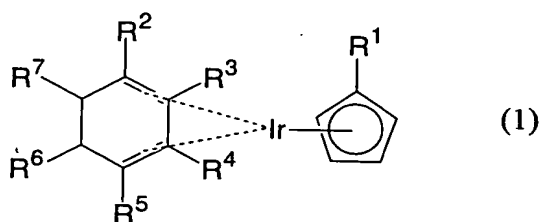
2. An organometallic iridium compound represented by the following general formula (2):



wherein R⁸ represents a lower alkyl group; and R⁹, R¹⁰, R¹¹, and R¹² are the same or different and each represents hydrogen, a halogen, a lower acyl group, a lower alkoxy group, a lower alkoxycarbonyl group, or a lower alkyl group, provided that the case where R⁸, R⁹, and R¹¹ each represents a methyl group, and R¹⁰ and R¹² each represents

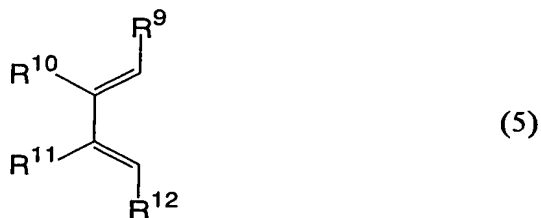
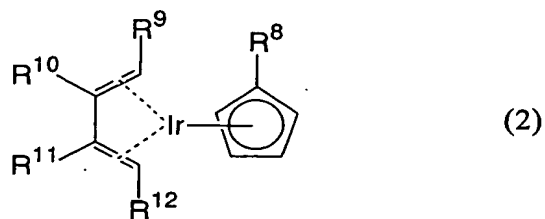
hydrogen is excluded.

3. A process of producing an organometallic iridium compound represented by the following general formula (1), which comprises reacting an iridium compound, a cyclohexadiene derivative represented by the following general formula (3), and a cyclopentadiene derivative represented by following general formula (4):



wherein R^1 represents hydrogen or a lower alkyl group; R^2 , R^3 , R^4 , R^5 , R^6 , and R^7 are the same or different and each represents hydrogen, a halogen, a lower acyl group, a lower alkoxy group, a lower alkoxycarbonyl group, or a lower alkyl group, provided that the case where all of R^1 , R^2 , R^3 , R^4 , R^5 , R^6 , and R^7 represent hydrogen is excluded; and M represents an alkali metal.

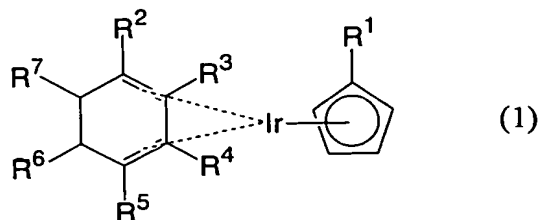
4. A process of producing an organometallic iridium compound represented by the following general formula (2), which comprises reacting an iridium compound, a butadiene derivative represented by the following general formula (5), and a cyclopentadiene derivative represented by following general formula (6):



wherein R^8 represents a lower alkyl group; R^9 , R^{10} , R^{11} , and R^{12} are the same or different and each represents hydrogen, a halogen, a lower acyl group, a lower alkoxy group, a lower alkoxycarbonyl group, or a lower alkyl group, provided that the case where R^8 , R^9 , and R^{11} each represents a methyl group, and R^{10} and R^{12} each represents hydrogen is excluded; and M represents an alkali metal.

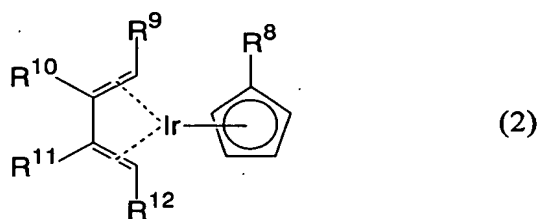
5. A process of producing an iridium-containing thin film, which comprises using, as a precursor, an organometallic iridium compound represented by the following

general formula (1):



wherein R^1 represents hydrogen or a lower alkyl group; and R^2 , R^3 , R^4 , R^5 , R^6 , and R^7 are the same or different and each represents hydrogen, a halogen, a lower acyl group, a lower alkoxy group, a lower alkoxycarbonyl group, or a lower alkyl group, provided that the case where all of R^1 , R^2 , R^3 , R^4 , R^5 , R^6 , and R^7 represent hydrogen is excluded.

6. A process of producing an iridium-containing thin film, which comprises using, as a precursor, an organometallic iridium compound represented by the following general formula (2):



wherein R^8 represents a lower alkyl group; and R^9 , R^{10} , R^{11} , and R^{12} are the same or different and each represents hydrogen, a halogen, a lower acyl group, a lower alkoxy group, a lower alkoxycarbonyl group, or a lower alkyl group, provided that the case where R^8 , R^9 , and R^{11} each represents a methyl group, and R^{10} and R^{12} each represents hydrogen is excluded.

7. The process as claimed in claim 5, which comprises using the CVD process.
8. The process as claimed in claim 6, which comprises using the CVD process.